



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/583,770

06/21/2006

Masashi Hashimoto

03500.119746.

5898

5514 7590 07/23/2009
FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

BOHATY, ANDREW K

ART UNIT

PAPER NUMBER

4132

MAIL DATE

DELIVERY MODE

07/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,770	Applicant(s) HASHIMOTO ET AL.	
	Examiner Andrew K. Bohaty	Art Unit 4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2006/09/14; 2007/06/05; 2008/01/10; 2008/03/14;</u> | 6) <input type="checkbox"/> Other: ____. |
| <u>2008/07/11.</u> | |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 2008 January 10 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

1. The abstract of the disclosure is objected to because it should be limited to two pages. In addition, the chemical structure corresponding to group B is illegible and the exact structure cannot be determined. Correction is required. See MPEP § 608.01(b).
2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 shows in general formula (1) benzene groups present at two different location at a third possibly at position A, if A is group B. According to the formulae it appears as the benzene groups are required; however, the definitions for R₁-R₁₀ and R₁₅-R₁₈ all the benzene groups to be heterocyclic nitrogen containing groups. The limitations states "each CH on the benzene ring having R₁-R₁₀ and R₁₅-R₁₈ may independently be replaced by a nitrogen atom". It is unclear if the compound of general formula (1) requires a benzene group to present or if the group may be described as a heterocyclic ring. Furthermore, it is unclear if a nitrogen containing heterocyclic ring is present in place of a benzene group if the heterocyclic ring is also required that at least one of R₁, R₂, R₄, or R₅ is a substituted or unsubstituted aryl group. Clarification and/or correction are required.
5. Claims 2-11 are included in this rejection due to their dependency on independent claim 1.

Claim Rejections - 35 USC § 102

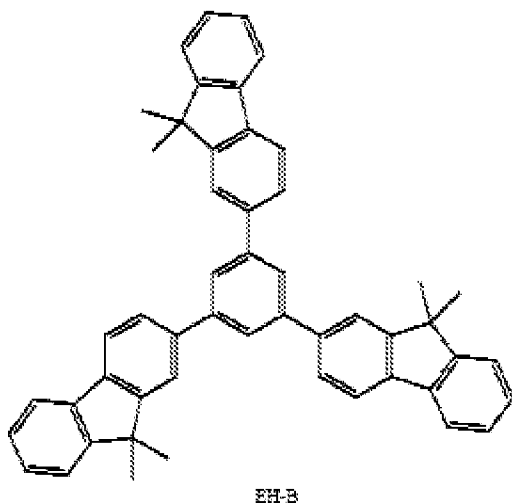
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

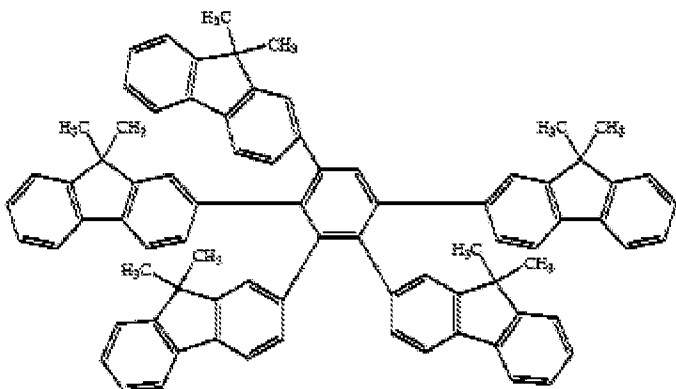
7. Claims 1-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamatani et al. (US 2003/0189216) (hereafter “Kamatani”).

8. Regarding claims 1-3, Kamatani discloses the following molecule (page 9, EH-B). This compound meets the limitations of claim 1, where $x = 1$, y and $z = 0$, A is a hydrogen atom, R_1 , R_3 , and R_5 are hydrogen atoms, R_2 and R_4 are unsubstituted aryl groups, and R_{11} and R_{12} are linear alkyl groups. This compounds meets the limitations of claim 2, where A is a hydrogen atom and meets the limitations of claim 3 where y and $z = 0$.



9. Regarding claims 4 and 5, Kamatani discloses an organic electroluminescent device (Fig. 1B objects 11-16, paragraphs [0011], [0060], [0062]-[0067], and [0070]) comprising a pair of electrodes (Fig. 1B, objects 11 and 14, paragraphs [0011], [0062], [0066], and [0067]), and at least one layer comprising an organic compound provided between the pair of electrodes (Fig. 1B objects 12, 13, and 16, paragraphs [0016], [0063]-[0065], and [0070]), wherein at least one layer comprising the organic compound comprises at least one compound represented by general formula (1) (EH-B, paragraphs [0064] and [0070]) wherein the layer is the light-emitting layer (Fig. 1B object 12, paragraphs [0064] and [0070]).
10. Regarding claim 6, Kamatani discloses the light-emitting layer comprises at least two compounds (paragraph [0064]) including a host (EH-B, paragraphs [0064] and [0070]) and a guest compounds (EG-A, paragraph [0064]), and the host compound comprises the compound represented by the general formula (1) (EH-B, paragraphs [0064] and [0070]).
11. Regarding claim 7, Kamatani discloses that the guest compound is a phosphorescent material (EG-A, paragraphs [0058], [0059], and [0064]).
12. Regarding claims 9 and 10, Kamatani discloses the phosphorescent material comprises a metal coordination compound, and more specifically an iridium coordination compound (EG-A, paragraphs [0064] and [0070]).
13. Regarding claim 11, Kamatani discloses a display apparatus comprising an organic electroluminescent device (paragraphs [0108]-[0121]).

15. Regarding claims 1-3 Suzuki discloses the following molecule (page 3, compound 1, paragraphs [0027], [0028], [0030], and [0043]). This compound meets the limitations of claim 1, where $x = 1$, y and $z = 0$, A is a hydrogen atom, R_3 is a hydrogen atom, R_1 , R_2 , R_4 , and R_5 are unsubstituted aryl groups, and R_{11} and R_{12} are linear alkyl groups. This compounds meets the limitations of claim 2, where A is a hydrogen atom and meets the limitations of claim 3 where y and $z = 0$.



16. Regarding claims 4 and 5, Suzuki discloses an organic electroluminescent device comprising a pair of electrodes, and at least one layer comprising an organic compound provided between the pair of electrodes, wherein at least one layer comprising the organic compound comprises at least one compound represented by general formula (1) wherein the layer is the light-emitting layer (paragraphs [0047], where compound 1 from above

represents general formula [I] in Suzuki, see paragraphs [0027], [0028], [0030], and [0043]).

17.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamatani et al. (US 2003/0189216) (hereafter “Kamatani”) as applied to claims 1-7 and 9-11 above, and further in view of Fukuda et al. (US 2004/0110031) (hereafter “Fukuda”).

21. Regarding claim 8, Kamatani does not teach wherein the phosphorescent material is of plural kinds.

22. Fukuda teaches the light emitting layer of an electroluminescent device can contain a host and a dopant (guest compound) (paragraph [0101]) and the guest is a phosphorescent material (paragraphs [0110] and [0111]). Fukuda further teaches that the phosphorescent material can be a plurality of dopant compounds (paragraphs [0115]) to provide an electroluminescent device that can emit light in any color, including white light (paragraph [0115]).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the guest material, of Kamatani, wherein the guest compound is a phosphorescent material in plural kinds. The motivation would be to provide an electroluminescent device that can emit light in any color, including white light.

24. Claims 6, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2004-107326), where Suzuki et al. (US 2005/0236974) (hereafter “Suzuki”) is a patent family member and used as the English translated version, as applied to claims 1-5 above, and further in view of Kamatani et al. (US 2003/0189216) (hereafter “Kamatani”).

25. Regarding claims 6, 7, 9, and 10, Suzuki does not teach an organic electroluminescent device wherein the light-emitting layer comprises at least two compounds including a host compound and a guest compound; wherein the guest compound is a phosphorescent material; wherein the phosphorescent material comprises

a metal coordination compound, and more specifically an iridium coordination compound.

26. Kamatani teaches an electroluminescent device wherein the light-emitting layer comprises at least two compounds including a host compound a compound (paragraphs [0062]-[0067] and [0070], where EH-B is the host and EG-A is the guest) and Kamatani further teaches the guest compound (EG-A) as a phosphorescent material (paragraph [0057] and [0058]), which is a metal, iridium, coordination compound to provide an electroluminescent device that has a high light emitting efficiency and a long light emission lifetime (paragraph [0030]).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the light emitting layer, of Suzuki, to comprises of at least two compounds, including a host compound and a guest compound; wherein the guest compound is a phosphorescent material; wherein the phosphorescent material comprises a metal coordination compound, and more specifically an iridium coordination compound. The motivation would be to provide an electroluminescent device that has a high light emitting efficiency and a long light emission lifetime.

28. Regarding claim 11, Suzuki does not teach a display device comprising the organic electroluminescent device as set forth in claim 4.

29. Kamatani teaches that a display apparatus comprising an organic electroluminescent device (paragraphs [0108]-[0121]) to provide a lightweight flat-panel display with energy saving performance and high visibility (paragraph [0113]).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the electroluminescent device, of Suzuki, to be contained in a display apparatus. The motivation would be to provide a lightweight flat-panel display with energy saving performance and high visibility.

31. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2004-107326), where Suzuki et al. (US 2005/0236974) (hereafter “Suzuki”) is a patent family member and used as the English translated version in view of Kamatani et al. (US 2003/0189216) (hereafter “Kamatani”) as applied to claims 1-7 above, and further in view of Fukuda et al. (US 2004/0110031) (hereafter “Fukuda”).

32. Regarding claim 8, Suzuki in view of Kamatani does not teach wherein the phosphorescent material is of plural kinds.

33. Fukuda teaches the light emitting layer of an electroluminescent device can contain a host and a dopant (guest compound) (paragraph [0101]) and the guest is a phosphorescent material (paragraphs [0110] and [0111]). Fukuda further teaches that the phosphorescent material can be a plurality of dopant compounds (paragraphs [0115]) to provide an electroluminescent device that can emit light in any color, including white light (paragraph [0115]).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the guest material, of Suzuki in view of Kamatani, wherein the guest compound is a phosphorescent material in plural kinds. The

motivation would be to provide an electroluminescent device that can emit light in any color, including white light.

Double Patenting

35. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

36. Claims 1-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3-8 of copending

Application No. 11/686,002 (Igawa et al.) (US 2007/0232841) (hereafter “Igawa”).

Although the conflicting claims are not identical, they are not patentably distinct from each other.

37. Regarding claims 1-3 of the instant application with respect to claim 1 of Igawa, Igawa claims a fluorene containing compound where P_2 can be a substituted phenyl group, which can be a substituted or unsubstituted aryl group.

38. Since the material of the instant application would qualify as a fluorene containing compound (when both y and $z = 0$, claim 3) where P_2 is a substituted phenyl group and the substituent can be a substituted or unsubstituted aryl group, and the claimed naphthyl group corresponds to group B (claims 1 and 2) of the instant application where the unsubstituted aryl group is fused to the benzene ring (this is not limited in the claim), the scope of the claims overlap.

39. Regarding claim 4 of the instant application with respect to claim 3 of Igawa, Igawa claims an organic layer sandwiched between a pair of electrodes, wherein the organic layer contains the fluorene containing compound of claim 1.

40. Regarding claims 5 and 6 of the instant application with respect to claim 4 of Igawa, Igawa claims the fluorene containing compound is the host compound in the light-emitting layer and the light emitting layer contains a second compound, a guest compound.

41. Regarding claims 7, 9 and 10 of the instant application with respect to claims 5, 6, and 7 of Igawa, Igawa claims the guest compound is a phosphorescent material; wherein the phosphorescent material comprises a metal, iridium, coordinating compound.

42. Regarding claim 8 of the instant application with respect to claim 8 of Igawa, Igawa claims the guest compound comprises a plurality of phosphorescent light-emitting dopant.

43. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

44. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew K. Bohaty whose telephone number is (571)270-1148. The examiner can normally be reached on Monday through Thursday 7:30 am to 5:00 pm EST and every other Friday from 7:30 am to 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael LaVilla can be reached on (571)272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Application/Control Number: 10/583,770

Page 14

Art Unit: 4132

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K. B./

Andrew K. Bohaty

Patent Examiner, Art Unit 4132

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 4132